Television—The Newest Medium for Continuing Education in Medicine

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A NEW ERA in continuing medical education opened 26 October 1965 in Southern California. At 8 o'clock that morning the first medical program was broadcast using the closed circuit ("scrambled image") facilities of The Medical Television Network. This first broadcast, like others to follow, occupied one hour, the latter part of which was devoted to telephoned questions from viewers, broadcast and answered "live" by the program participants.

The use of electronic audio-visual equipment in education has been expanding since World War II. Medical schools have availed themselves of such devices increasingly during the past 15 years, usually by interconnections within the campus or between the school and an affiliated hospital using wired microwave systems. Actual broadcast of material for continuing education in medicine has appeared more recently in widely separated areas of the United States. These programs are usually associated with medical schools. All such projects use the facilities of one or more local educational television stations for open broadcast, usually during the late evening, to eliminate public viewing as much as possible. Such medical broadcasting projects are currently to be found in Boston, New York City, Buffalo, Pittsburgh, Charleston, S.C., and Salt Lake City.

When educational television station KCET, Channel 28, ultra-high frequency (UHF), commenced its operation in Los Angeles in 1964, considerable thought was given to the possible use of its powerful transmitter, strategically located on Mt. Wilson, as a means of projecting educational material in postgraduate medicine. The U.C. Extension Office of Continuing Education in Medicine at Los Angeles especially had been interested for some years in the use of television as a medium for broadening the range of its educational efforts. Since the idea of public broadcast had many obvious disadvantages, it was decided that televised medical subjects should be protected from public view by using a "scrambled image" broadcast, and decoding or "unscrambling" both the video and audio at the points of reception. Following a pilot project, conducted during the spring of 1965, this method was found to be feasible.

The Medical Television Network was then organized with UCLA Office of Continuing Education in Medicine (U.C. Extension) as the administrative and fiscally responsible member of a group of medical institutions associated for the purpose of production of programs. The other members of this group of medical television producers are UCLA School of Medicine, U.S.C. School of Medicine, Loma Linda University School of Medicine, City of Hope Medical Center, and U.C. California College of Medicine. Official representatives of these institutional producer members formed the Production Coordination Committee of The Medical Television Network which met first in September 1965 and has continued to meet regularly, functioning as the programming and policy-making body for the network. This committee also has members representing the American Academy of General Practice, the American Cancer Society, the Los Angeles Heart Association, the AMA Advisory Committee on Motion Pictures, Radio and Television, the Tuberculosis and Health Association, and Station KCET.

All major hospitals within range of KCET in the seven Southern California counties of Santa Barbara, Ventura, Los Angeles, Orange, San Bernardino, Riverside and San Diego were invited to join The Medical Television Network as participating hospitals for the reception of broadcasts. Each hospital joining the network selected a coordinator responsible for medical television

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within his institution. These participating hospital representatives meet once yearly or oftener with the Production Coordination Committee to plan ways for increasing the academic excellence and clinical applicability of the material broadcast.

The major portion of the fee assessed each hospital for joining the network was spent for the purchase and installation of the necessary decoding ("unscrambling") and monitoring equipment in each institution. The remainder was used to bolster the financial position of The Medical Television Network, particularly as regards production costs. All teaching hospitals with *bona fide* medical school affiliations were admitted to the network for the cost of the equipment and installation only. Fortunately, additional funding was obtained from the American Cancer Society, the National Institutes of Mental Health, the City of Hope Medical Center, the Tuberculosis and Health Association, and the Los Angeles Foundation of Otology. Receipt of these funds, plus keeping production costs at a minimum, allowed the Medical Television Network to produce and broadcast 30 programs during the 1965-66 academic year at a "break-even" level.

During this period of broadcasting the number of participating hospitals increased to a total of 71. Full credit was allowed by the Academy of General Practice to its members for viewing the programs. Initial technical difficulties with both audio and video were gradually remedied so that by 31 May 1966, the date of the final broadcast of the series, only one hospital, located in San Diego County at the extreme range of the KCET signal, continued to have significant difficulties.

All participating hospitals were asked for reports on attendance, and a majority responded well. The findings of a questionnaire, sent to a random sample of physicians viewing the broadcast, are currently under analysis and will be completely reported at a later date. In general, this study appears to indicate that continuing medical education by scrambled broadcast television is reaching a slightly greater proportion of the total potential range of physicians than is reached by standard educational methods. It also appears that arrangements for viewing at other than the broadcast time (now set weekly on Tuesdays from 8 to 9 a.m.) may significantly increase the viewership. This can be accomplished by the use of a small videotape recorder in each hospital for program playback *ad libitum*. Continued improvement in the quality of the medical programs taped for broadcast is also indicated. For this purpose The Medical Television Network has secured the full-time services of an experienced and talented producer of medical films and television tapes who will work closely with the faculty members of all producing institutions to insure increasing professional excellence in production.

The major requirement to augment medical television viewership is to motivate the physician to attend the programs. Eventually each television program will not only be handily available at the physician's own hospital during the original broadcast but also continuously available thereafter for playback. Production is being carried out with increasing skill to enhance interest.

Is it possible to stimulate a physician to view programs that concern fields of medicine other than his specialty? If it were somehow possible to popularize what undoubtedly is a truism, that keeping abreast of medical knowledge in all fields in this easy fashion can have a salutary effect upon a physician's capability to practice his own specialty, the total viewership of medical television might increase rapidly indeed.

The Medical Television Network approaches the 1966-67 "season" with plans in hand and operations under way to produce and broadcast 38 programs weekly, commencing 20 September 1966. The Network has been fortunate in securing a two-year contract with the U.S. Public Health Service which will underwrite a portion of the costs of its operations in return for meticulous statistical reporting. This, plus funding from some other sources previously mentioned, and from the California Dairy Council, will allow the network to reduce its tuition charges to previously participating hospitals by 25 per cent this year.

The advent of the reasonably priced videotape recorder on the commercial market offers The Medical Television Network an excellent opportunity for extension of its medical educational programs both in time and in space. The "time extension" has been referred to previously. This is accomplished by placing a videotape recorder in a hospital within the KCET broadcast range. By taping each broadcast for later playback, the fixed time of the broadcast ceases to be a limiting factor for viewership by many physicians.

The "space extension" using videotape recorders requires that the broadcast "master" video-

tape be reduplicated on many small tapes suitable for use on the smaller recorders. (The Medical Television Network is currently duplicating tapes for two videotape recorders, each manufactured by a separate concern.) These small duplicated videotapes are then mailed to any hospital anywhere for playback at any time, provided the hospital possesses a videotape recorder. The network has been fortunate in obtaining the requisite tape, as well as reduplication and distribution facilities, at minimal cost. This will allow member (tuition paying) hospitals within the broadcast range to receive a new small videotape each week as a bonus, at no extra cost, provided they have a videotape recorder. Hospitals beyond the broadcast range will be offered 38 videotapes for playback on their recorders at the same tuition required of hospitals within the broadcast range. In this way a hospital hundreds or even thousands of miles from Los Angeles may still benefit from the programs in continuing education broadcast originally in Los Angeles by The Medical Television Network. Each week, for 38 weeks, beginning on or about 20 September 1966, each such hospital will receive a new medical videotape, to be returned to the distributor at the end of the week, when the next tape arrives.

The future of continuing medical education by television appears to be bright indeed. Although precisely the same physician motivation problems are present with television as with all other forms of continuing education in medicine, it seems possible that, with the ubiquity of the television receiver, the increasing availability of good videotape recorders (probably at progressively lower prices), the ease of viewing a broadcast or videotape at one's own hospital, and the gradual improvement in the sophistication of medical television production, the proportion of physicians interesting themselves in this form of education may well increase beyond that now reached by other forms of continuing medical education.